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SC PUBLIC SERVICE
COMMISSION

**DIRECT TESTIMONY
OF
JAMES E. SWAN, IV
ON BEHALF OF
SOUTH CAROLINA ELECTRIC & GAS COMPANY
DOCKET NO. 2008-2-E**

Q. PLEASE STATE YOUR FULL NAME AND BUSINESS ADDRESS.

A. My name is James E. Swan, IV. My business address is 1426 Main Street, Columbia, South Carolina.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by SCANA Services, Inc. and serve as the Controller of SCANA Corporation and its subsidiaries ("SCANA"), including South Carolina Electric & Gas Company (the "Company" or "SCE&G").

Q. PLEASE BRIEFLY DESCRIBE YOUR EDUCATIONAL AND BUSINESS BACKGROUND.

A. I received a Bachelor of Science degree in Accounting from Clemson University, cum laude, in May of 1982. In June, 1982, I joined the public accounting firm of Touche Ross & Co. as an auditor, and I left the firm in June 1986 to become the Controller of Nautilus Sports/Medical Industries, Inc. In December of 1987, I returned to Touche Ross as an audit manager. While at Touche Ross and later at Deloitte & Touche, I was responsible for the performance of audit and related services for clients in the utilities, manufacturing and distribution, healthcare, telecommunications and technology industries. While at Deloitte & Touche, I served in a risk management role in the firm's National Office, and I also devoted a

1 significant amount of time to resolution of technical accounting issues and to
2 serving Securities and Exchange Commission (SEC) registrants. I left the
3 firm as an audit partner in August 2000 to join SCANA as an assistant
4 controller. I became SCANA's and SCE&G's Controller in the spring of
5 2002. I am a certified public accountant in South Carolina and North
6 Carolina, and I am a member of the American Institute of Certified Public
7 Accountants.

8 **Q. HAVE YOU PREVIOUSLY OFFERED TESTIMONY IN**
9 **REGULATORY PROCEEDINGS?**

10 A. I have submitted testimony to this Commission in two prior regulatory
11 proceedings on behalf of South Carolina Electric & Gas Company and have
12 given testimony from the stand in one of those proceedings.

13 **Q. PLEASE DESCRIBE THE SCOPE OF THE TESTIMONY YOU ARE**
14 **PRESENTING.**

15 A. My testimony concerns the accounting treatment for prepayments and
16 collections related to municipal fees and SCE&G's proposal for crediting
17 accumulated balances in certain prepayment accounts to customers through
18 the fuel clause and cost of gas calculations.

19 **Q. HAS THE COMMISSION PREVIOUSLY CONSIDERED THESE**
20 **MATTERS?**

21 A. Yes. On December 20, 2007, SCE&G filed a letter with the
22 Commission requesting an accounting order approving a revised accounting

1 treatment for these prepayments and collections and approving the crediting
2 of positive balances related to these prepayments to electric fuel costs and gas
3 costs. On January 25, 2008, the Commission issued Order 2008-49 granting
4 SCE&G's request. The Commission did so without prejudice to any party in
5 future proceedings and specifically indicated that it would consider testimony
6 about these matters in this proceeding.

7 **Q. PLEASE EXPLAIN THE HISTORY AND ORIGIN OF THE**
8 **MUNICIPAL FEES AT ISSUE.**

9 A. Under Article VIII, Section 15 of the Constitution of South Carolina,
10 and Section 5-7-30 of the Code of Laws of South Carolina, 1976,
11 municipalities have the right to grant or withhold consent for utility
12 companies to use public streets, alleys and other public spaces to serve
13 customers within their boundaries. Historically, as consideration for the right
14 to use these spaces, municipalities have required utility companies to pay
15 them a percentage of utility revenues generated within the municipal limits.
16 As of the end of 2007, SCE&G was a party to fee agreements requiring such
17 payments with 150 municipalities. Within these municipalities, SCE&G
18 serves approximately 186,000 gas customers and 368,000 electric
19 customers.

20 **Q. HOW ARE FEES CALCULATED UNDER THESE AGREEMENTS?**

21 A. The fees charged to SCE&G under these agreements typically range
22 from 3% to 5% of the amounts billed to residential and commercial customers

1 within each municipality. Most, but not all, municipalities exclude revenue
2 from industrial service from these fee assessments. This exclusion avoids
3 creating an incentive for manufacturing plants within the municipal limits to
4 close or move away.

5 Under some fee agreements, part of the amount collected is earmarked
6 for a non-standard service fund which is used to defray the cost of
7 underground service conversions and other non-standard service options
8 requested by the municipalities in question. In some cases, the agreements
9 require that a neighborhood requesting underground conversion agree to an
10 additional franchise fee assessment of up to 3% as a contribution to the cost of
11 converting that neighborhood to non-standard service. In other words, while
12 there is reasonable uniformity concerning many aspects of these agreements,
13 the percentage of the fee charged varies from municipality to municipality. In
14 addition, even within the same municipality, the percentage charged may vary
15 from neighborhood to neighborhood. To further complicate matters, some of
16 the 150 municipalities that SCE&G serves have changed the amount of the
17 fee they charge in recent years.

18 **Q. HOW ARE FEES PAID UNDER THESE AGREEMENTS?**

19 A. The agreements require SCE&G to pay the fees in advance each year,
20 with the payment itself being computed based on the prior year's billings. In
21 other words, a payment made in mid-2007 is calculated based on 2006

1 billings and secures the right for the Company to use municipal spaces for
2 providing utility service during 2008.

3 **Q. HOW HAS THE COMPANY ACCOUNTED FOR THE PAYMENT**
4 **AND RECOVERY OF THESE FEES?**

5 A. Before 1987, municipal fee payments were accounted for as general
6 utility expenses and were treated like any other tax or other cost of providing
7 utility service. Specifically, as required by 19 C.F.R. Part 101-Uniform
8 System of Accounts Prescribed for Public Utilities and Licensees Subject to
9 the Provisions of the Federal Power Act (the "Uniform System of Accounts"),
10 prepayments of municipal fees were booked in Account 165, Prepayments.
11 Each prepayment was amortized into general utility expenses the following
12 year as service was rendered to customers using the rights secured by the
13 prepayment.

14 **Q. HOW DID THIS CHANGE IN 1987?**

15 A. Beginning as early as 1980, the Commission began requiring utilities
16 to treat municipal fee payments as a separate expense, to remove that expense
17 from base rate calculations, and to recover it from customers as a special
18 surcharge applicable only in the municipalities where a fee was imposed. In a
19 1987 gas rate proceeding, Docket No. 87-227-G, the Commission ordered
20 SCE&G to use this approach for its gas customers. As the Commission stated
21 in Order No. 87-1294:

22 The Commission notes that Order No. 80-80 in Docket No. 80-9-G
23 directed Piedmont Natural gas to treat such fees as a separate expense

1 for ratemaking purposes and collect the fees only from the customers
2 residing within the city limits of the cities assessing such a fee. Order
3 No. 84-708 in Docket No. 83-495-G directed Piedmont Natural Gas to
4 recover its business license tax similarly. The propriety of the
5 Commission's action was affirmed by the South Carolina Supreme
6 Court in The City of Spartanburg v. The Public Service Commission
7 of South Carolina and Southern Bell Telephone and Telegraph Co.,
8 281 S.C. 223, 314 S.E.2d 599 (1984).

9
10 Order No. 87-1294 applied only to SCE&G's natural gas service. In Order
11 No. 87-1381, the Commission directed SCE&G to use the same approach in
12 billing its electric customers.

13 **Q. HOW DID THESE ORDERS AFFECT SCE&G'S ACCOUNTING**
14 **FOR MUNICIPAL FEE PAYMENTS AND CHARGES?**

15 A. In response to these two orders, the Company began directly billing
16 customers residing within municipal limits for these fees at the rates
17 established in the applicable agreements. SCE&G continued to book the
18 prepayments each year to Account 165 as required by the Uniform System of
19 Accounts. However, rather than amortizing these prepayments into general
20 utility expenses as it did before 1987, the Company instead credited the
21 subsequent-years' collections from customers against the prepayment in
22 Account 165.

23 **Q. WHAT WAS THE RESULT OF THIS ACCOUNTING APPROACH?**

24 A. This accounting approach was fully consistent with the Commission's
25 orders of 1987, but this approach did allow balances to accumulate in
26 Account 165 without any specific means to flow those balances through to
27 customers.

1 **Q. PLEASE EXPLAIN.**

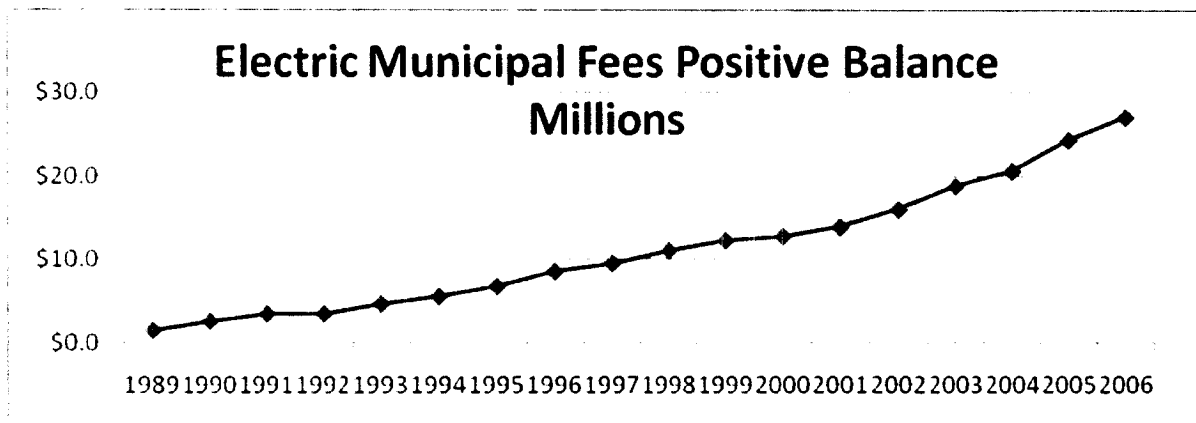
2 A. As noted above, prepayments are calculated based on the prior year's
3 billings. Collections to recover these fees depend on billings during the
4 collection period two years later. Collections may be more or less than the
5 associated prepayments depending on whether billings to the municipal
6 customers increased or decreased between the calculation year and the
7 collection year. When there is a difference between prepayments and later
8 collections, that difference is seen as a balance in Account 165.

9 **Q. WHAT FACTORS INFLUENCED THESE YEARLY OVER-**
10 **RECOVERIES AND UNDER-RECOVERIES?**

11 A. Factors that influenced the relationship between prepayments and
12 collections year to year include weather (which can cause dramatic
13 fluctuation in billings year to year), growth or decline in population or
14 economic activity within the municipality, annexation of new areas and
15 customers into the municipality, increases or reductions in electric fuel costs
16 and natural gas costs, and base rate increases or reductions. In fact, over the
17 past decade there has been significant variability in the relationship between
18 payments and collections year to year. When the relationship between
19 payments and collections is analyzed on a municipality by municipality basis,
20 the variation is even greater.

21 **Q. WHAT HAS BEEN THE OVERALL TREND IN THE BALANCE OF**
22 **THE PREPAYMENT ACCOUNT?**

1 A. In recent years, increases in electric fuel costs and gas commodity
2 costs, as well as growth in energy demand and base rate adjustments, have
3 resulted in a cumulative balance of collections compared to payments that is
4 significantly positive. As of January 1, 2007, the cumulative positive balance
5 of fee prepayments vs. collections was approximately \$37.5 million, of which
6 approximately \$10.5 million is related to gas service and approximately \$27
7 million is related to electric service. The Company has compiled the history
8 of the cumulative electric balances at year end since 1989 by tracking the
9 activity in the account retrospectively. The results are as follows:



10
11 **Q. HAVE CUSTOMERS RECEIVED THE BENEFIT OF THE POSITIVE**
12 **CUMULATIVE BALANCES RELATED TO THESE**
13 **PREPAYMENTS?**

14 A. Yes. Customers have received the full benefit of any positive balances
15 in these prepayment accounts. As required by the Uniform System of
16 Accounts, the balance in Account 165, after netting all entries in the account,
17 is included in rate base. As a result, any positive balance related to municipal

1 fee collections in excess of prepayments reduces regulated rate base and
2 reduces the Company's revenue requirement by the weighted average cost of
3 capital applied to the amount of the rate base reduction. Reductions in
4 revenue requirements have been reflected in each quarterly rate of return
5 report filed by SCE&G since 1989 when a positive balance in the prepayment
6 account first arose. The reductions were also reflected in each of the base rate
7 adjustments granted by the Commission, on either gas or electric rates, in the
8 years since 1989.

9 **Q. PLEASE PROVIDE A SPECIFIC EXAMPLE OF HOW THESE**
10 **BALANCES HAVE PUT DOWNWARD PRESSURE ON RATES.**

11 A. In SCE&G's 2007 retail electric rate proceeding, Docket No. 2007-
12 123-E, there was a positive balance of municipal fee collections in excess of
13 prepayments in Account 165 as of March 31, 2007. The retail electric portion
14 of Account 165 was included in retail electric rate base, and net retail electric
15 rate base was reduced by \$27.6 million compared to what it would have been
16 had SCE&G not carried these positive balances related to municipal fees.
17 Lowering net retail electric rate base by \$27.6 million resulted in a reduction
18 in the Company's revenue requirement of \$3.4 million in that proceeding. In
19 other words, as a result of the positive municipal fee balances on the books in
20 that case, retail electric rates were set to collect \$3.4 million less annually than
21 would otherwise have been the case. The same sorts of reductions in rate base
22 and revenue requirements were present in all the rate proceedings, including

1 Rate Stabilization Act adjustments to gas rates, since positive balances first
2 arose.

3 **Q. WHAT ACCOUNTING TREATMENT DID THE COMMISSION**
4 **APPROVE CONDITIONALLY IN ORDER NO. 2008-49?**

5 A. In Docket No. 2007-459-E, SCE&G requested the Commission:

- 6 1. To allow SCE&G, beginning with its calendar year 2007 financial
7 statements, to record current-year payments of municipal fees as a
8 prepaid expense on its balance sheet and record current-year
9 collections as other electric or gas revenue, as appropriate, net of
10 the amortization of the prior year prepayment; and
- 11 2. To allow SCE&G to credit the outstanding balance related to these
12 fees as of December 31, 2006, to the cost of gas calculation or the
13 environmentally-related electric fuel component calculation as
14 appropriate. The Company requested that if any positive
15 adjustment related to the balances from 2006 and earlier are made
16 in the future, these adjustments would be flowed through to
17 customers using the same methodology.

18 As indicated above, the Commission approved this accounting treatment
19 subject to consideration in this proceeding.

20 **Q. PLEASE EXPLAIN HOW THE ONGOING ACCOUNTING**
21 **TREATMENT WILL WORK.**

1 A. SCE&G will continue to record municipal fee payments as
2 prepayments into Account 165 as they are made. The Company will then
3 amortize the prepayment as a charge to income monthly during the collection
4 period. Recoveries from customers also will be recorded to income in the
5 period billed. As such, the balance, positive or negative, will be recorded on
6 the Company's books as other regulated gas or electric revenue for that
7 month. In this way, the prepayment for each year will be fully amortized
8 during the year in which it is intended to be collected (*i.e.*, the prepayment for
9 each year will be zeroed out in the collection year). Any over collection or
10 under collection will be reflected as an increase or decrease in other regulated
11 utility revenue during the collection year. This accounting treatment will
12 ensure that, going forward, balances related to prepayments and collections
13 will not accumulate, and that over-collections or under-collections will be
14 reflected in utility income in future rate of return reports and ultimately in
15 rates.

16 **Q. PLEASE EXPLAIN THE PROPOSED CREDITS TO ELECTRIC**
17 **FUEL COSTS.**

18 A. The Company is proposing, and the Commission has conditionally
19 approved, a one-time credit of the balance in the municipal prepayment
20 account as of December 31, 2006, to the electric fuel costs and gas costs. The
21 electric fuel cost credit will consist of a \$27 million credit to the balance of
22 environmentally-related fuel costs. These are costs to be recovered from

1 electric customers pursuant to the Utilities Infrastructure Act of 2007, Act No.
2 16 of 2007, codified at S.C. Code Ann. § 58-27-865(A)(1)(a) and (b).

3 **Q. PLEASE EXPLAIN WHY THE COMPANY IS PROPOSING TO**
4 **MAKE THIS CREDIT TO ENVIRONMENTALLY-RELATED FUEL**
5 **COSTS.**

6 A. The Utilities Infrastructure Act substantially expanded the scope of
7 environmental costs that will be recovered from customers through the
8 electric fuel clause and established a separately-stated environmental fuel cost
9 recovery component to recover these costs. This Fuel Clause Proceeding will
10 be the first proceeding in which fuel factors will be set based on the new
11 statutory definitions. Crediting approximately \$27 million to the balance of
12 environmentally-related costs will substantially mitigate the resulting increase
13 in environmentally-related fuel costs to customers. Without the credit, the
14 environmentally-related fuel component would have to be set to recover a
15 total of \$44 million during the fuel cost recovery period in this proceeding.
16 The proposed credit reduces that amount by 61% to \$17 million.

17 **Q. WHY IS IT APPROPRIATE TO MAKE THE ELECTRIC CREDIT**
18 **TO ENVIRONMENTAL COSTS?**

19 A. As noted above, the majority of municipal fee agreements exempt
20 industrial customers from municipal fee payments. Accordingly, the
21 Company sought a way to target the credit to residential and commercial
22 customers. There is, however, no way to isolate the credit solely to

1 residential and commercial customers using existing electric rate categories.
2 Most industrial electric service is rendered under the Large General Service
3 Class. But this class also includes a number of large commercial customers,
4 distribution facilities, big-box stores, and hospitals who do pay municipal
5 fees. In addition, a significant amount of service to smaller industrial
6 concerns is provided through the Small General Service Rate and the Medium
7 General Service Rate.

8 However, targeting the credits to environmentally-related fuel costs
9 does weight the benefit of the credits toward the residential and commercial
10 customer classes, and away from the industrial customer class. There are two
11 principal reasons why this is the case. Both are related to the fact that the
12 Utilities Infrastructure Act requires environmentally-related fuel costs to be
13 allocated among rate classes based on peak demand allocators.

14 First, the industrial customers as a group take a significant amount of
15 their electrical service as interruptible service. Interruptible service is not
16 counted in calculating peak demand. Therefore, making the credits to costs
17 that are allocated based on peak demand means that less of the benefit goes to
18 the industrial rate categories, where interruptible service is not counted, and
19 more goes to the residential and commercial rate categories.

20 Second, because residential and commercial customer classes have
21 lower load factors than other customer classes, the contribution of the
22 residential and commercial classes to peak demand is proportionally greater

1 than other classes. For that reason, making the credit to environmentally-
2 related fuel costs, which are allocated using the peak demand allocator,
3 allocates more of the credit to residential and commercial customers than if
4 the credit were made to costs that were allocated in other ways.

5 **Q. IN ITS PROPOSAL, WHY DID THE COMPANY CHOOSE TO**
6 **APPLY THE GAS CREDIT TO THE DEMAND COST OF GAS**
7 **COMPONENT FOR RESIDENTIAL AND COMMERCIAL**
8 **CUSTOMERS?**

9 A. Under the cost of gas mechanism approved by the Commission in
10 Order No. 2005-619, the Company computes a demand cost of gas
11 component for the residential, commercial and industrial customer classes
12 separately. For that reason, it is possible to allocate credits specifically to
13 residential and commercial gas customers by applying the credits against the
14 residential and commercial demand cost of gas factors only. As discussed
15 above, there is no similar possibility on the electric side of the business,
16 because there are no rates or recovery factors that are wholly-specific to the
17 non-industrial customer classes.

18 **Q. DID THE COMPANY CONSIDER OTHER ALTERNATIVES FOR**
19 **FLOWING THESE FUNDS BACK TO CUSTOMERS?**

20 A. Yes. The Company considered several options for targeting the credits
21 more specifically to electric and gas customers inside municipalities.
22 However, the Company determined for a number of reasons that the

1 mechanism conditionally approved in Order No. 2008-49 is the best and most
2 fair and reasonable way to handle these credits. Several of the key
3 considerations are as follows:

- 4 • The account balances in question have accumulated over
5 approximately 20 years. During that time, customers have moved in
6 and out of cities and towns, municipal boundaries have been expanded
7 by annexation, and in some cases municipalities have been added or
8 removed from the list of those within which SCE&G collects fees.
- 9 • The customers in the 150 municipalities in which SCE&G currently
10 serves have contributed greatly differing amounts to the cumulative
11 over-collection of prepayments. As discussed above, the amount of
12 contribution depends on a number of factors, including the rate of
13 growth or decline in construction and economic activity within the
14 municipality, and the rate of expansion by annexation that individual
15 municipalities have experienced during that time. There is no
16 consistency in contributions when viewed on a municipality by
17 municipality basis.
- 18 • In addition, a number of municipalities have increased their franchise
19 fee percentages from 3% to 5% at different times during the period,
20 and in some cases have added neighborhood-specific surcharges.
21 These changes have affected the level of contributions to the
22 accumulation of the balances to be credited.

- Due to these sorts of complexities, any municipality-only or municipality-by-municipality credit would have to be calculated and credited by hand. The cost and administrative burden of doing so would be significant.
- Municipality-specific credits would also mean that credits would be greatly different from municipality to municipality. Similarly situated customers, paying the same franchise fee percentage but living in towns with different growth or annexation rates could receive very different credits. Those differences could cause significant customer confusion and would be likely to place a significant burden on SCE&G's call center personnel and others who will be asked to explain the differences.

Considerations such as these have convinced the Company that the most fair and logical approach is to flow these balances back to customers on a uniform basis as credits to existing fuel costs and cost of gas costs. Under this approach, all customers who pay the applicable fuel charges and cost of gas charges will get equivalent benefits from the credits, the municipal fee percentages as itemized on the customers' bills will continue to match the municipally-established fee percentages, and the administrative burdens and possibility of confusion will be minimized.

Q. WHAT IS YOUR CONCLUSION AS TO THE APPROPRIATENESS OF THE ACCOUNTING MATTERS DISCUSSED ABOVE?

1 A. In my opinion, the accounting treatment and the crediting mechanism
2 that the Commission conditionally approved for accounting purposes in Order
3 2008-49 are just and reasonable and should be adopted by this Commission in
4 this proceeding. The forward-looking accounting treatment proposed by the
5 Company for these prepayments will ensure that future balances do not
6 accumulate and that variations between prepayments and receipts will be
7 reflected on a timely basis in the overall rates and operating results of the
8 utility. Adopting the proposed crediting mechanisms for the outstanding
9 balances as of December 31, 2006, will ensure that the value of these balances
10 is credited to customers in a uniform, reasonable and equitable way and one
11 that targets the majority of the benefit to the customer classes that have most
12 directly contributed to creation of the balances.

13 **Q. WHAT HAS THE COMPANY DONE TO ENSURE THAT OTHER**
14 **PREPAYMENT AND DEFERRED CREDIT OR DEBIT ACCOUNTS**
15 **ARE NOT ACCUMULATING SIMILAR BALANCES?**

16 A. My staff and I have reviewed the other prepayments being accounted
17 for in our series of accounts within Account 165 of the Uniform System of
18 Accounts to ensure that each one is appropriate and that each such
19 prepayment is supported by an amortization and reconciliation mechanism
20 that will properly reduce the balance held in the account as the benefit of the
21 prepayment is received. By way of background, most of the items held in the
22 Account 165 series are ordinary prepayments for things such as taxes,

1 insurance, multi-year service agreements, or multi-year maintenance
2 agreements. In all cases, the value of the prepayment is amortized into
3 expenses as the benefit is received or on a schedule that reflects the terms of
4 the contract under which the prepayment was made. As a result, balances are
5 held in the account only as long as necessary to match the payment with the
6 associated services or benefits. In fact, these mechanisms work in the same
7 way as does the amortization mechanism that the Commission conditionally
8 approved for municipal fee balances in Order 2008-49. Under these
9 mechanisms, the balance related to a given prepayment is reduced to zero as
10 the services or benefits associated with that prepayment are received.

11 Beyond this review of amounts in the Account 165 series, my staff and
12 I also made a review of the Company's other principal deferred accounts.
13 These accounts typically exist by reason of Commission orders or other
14 regulatory accounting guidance, and their balances are amortized into rates
15 over time or are held to be expensed at a later date. Examples of such
16 accounts, as they exist on the books of the Company at this time, include the
17 account in which nuclear outage costs are accrued over the 18-month nuclear
18 outage cycle, the turbine maintenance account which the Commission
19 established by Order 2005-2 to provide for the recognition of turbine
20 maintenance expenses in a levelized and systematic manner, and the accounts
21 in which over and undercollections of electric fuel costs and gas costs are held
22 pending collection or return to customers in future months, and certain

1 emission allowance accounts. Our review showed that these accounts are
2 being administered properly and the balances they reflect are reasonable and
3 appropriate. Based on the review my staff and I conducted, and based on my
4 knowledge of SCE&G's accounts as its Controller, I am not aware of any
5 other deferral accounts that have balances that are materially greater than
6 what would be reasonably expected or where special action is necessary to
7 flow benefits back to customers. The Company will continue to monitor these
8 accounts and will come to the Commission if it becomes necessary or
9 appropriate to take any action related to them in the future.

10 **Q. MR. SWAN, DOES THIS CONCLUDE YOUR TESTIMONY?**

11 **A.** Yes. It does.

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SC PUBLIC SERVICE
COMMISSION

**DIRECT TESTIMONY OF
JOSEPH M. LYNCH
ON BEHALF OF
SOUTH CAROLINA ELECTRIC & GAS COMPANY
DOCKET NO. 2008-2-E**

**Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS AND
CURRENT POSITION.**

A. Joseph M. Lynch, 1426 Main Street, Columbia, South Carolina. My
current position is Manager of Resource Planning, SCANA Services, Inc.

**Q. DESCRIBE YOUR EDUCATIONAL BACKGROUND AND
PROFESSIONAL EXPERIENCE.**

A. I graduated from St. Francis College in Brooklyn, New York with a
Bachelor of Science degree in mathematics. From the University of South
Carolina I received a Master of Arts degree in mathematics, an MBA and a
Ph.D. in management science and finance. I was employed by South
Carolina Electric & Gas Company ("SCE&G" or the "Company") as a
Senior Budget Analyst in 1977 to develop econometric models to forecast
electric sales and revenue. In 1980, I was promoted to Supervisor of the
Load Research Department. In 1985, I became Supervisor of Regulatory
Research where I was responsible for load research and electric rate design.
In 1989, I became Supervisor of Forecasting and Regulatory Research, and,
in 1991, I was promoted to my current position of Manager of Resource
Planning.

1 **Q. BRIEFLY SUMMARIZE YOUR CURRENT DUTIES.**

2 A. As manager of Resource Planning I am responsible for producing
3 SCE&G's forecast of energy, peak demand and revenue; for developing the
4 Company's generation expansion plans; and for overseeing the Company's
5 load research program.

6 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

7 A. The purpose of my testimony is to discuss the Company's short-
8 range energy sales forecast and to explain how we simulate the operation of
9 our power plants to generate the required energy and project the resulting
10 fuel requirements for the system.

11 **Q. DESCRIBE THE COMPANY'S SHORT-RANGE ENERGY**
12 **FORECASTING PROCESS.**

13 A. Each summer the Company updates its short-range and long-range
14 sales forecast as part of its annual planning cycle. The long-range sales
15 forecast refers to the forecast for the full twenty year planning horizon. The
16 short-range sales forecast refers to the forecast for the first two years of the
17 planning horizon and is projected on a month-by-month basis. In preparing
18 the short-range sales forecast, we divide our customers into detailed
19 forecasting groups defined by rate and class. Where possible, customers are
20 further divided into electric space heating and non-electric space heating
21 groups. Residential customers are further separated into those living in
22 either single-family, multi-family or mobile homes. We forecast

1 consumption for about twenty of our largest industrial customers on an
2 individual basis while the balance are separated into 2-digit SIC groups.
3 Exhibit No.____ (JML-1) shows most of the detailed groups. Where a
4 detailed customer group contains a large number of homogeneous
5 customers, separate econometric models are developed to project the
6 number of customers and the average use per customer based on such
7 factors as population growth, and levels of economic activity within our
8 service territory. All residential groups and small commercial groups are
9 projected in this way. Weather is a significant factor in the residential and
10 commercial models. Projections are based on normal weather where normal
11 is defined as the average taken over the last 15 years. Overall, nearly 100
12 econometric and statistical models are utilized to develop the short-run
13 forecast.

14 **Q. IS YOUR ENERGY FORECASTING METHODOLOGY TYPICAL**
15 **FOR THE INDUSTRY?**

16 A. Yes, our use of multiple regression and statistical time-series models
17 is fairly standard throughout the industry.

18 **Q. HOW ACCURATE HAS YOUR ENERGY FORECASTING**
19 **METHODOLOGY BEEN?**

20 A. Over the past ten years the mean absolute percent error (MAPE) has
21 been 1.4% when comparing the forecast to the weather-normalized actual
22 consumption of energy on our system.

1 **Q. WHAT IS YOUR ENERGY FORECAST FOR 2008?**

2 A. We expect our territorial customers to consume 24,286 gigawatt
3 hours of energy in 2008 with 34% being consumed by our residential
4 customers, 31% by our commercial customers, 26% by our industrial
5 customers and the balance of 9% by the combination of the remaining retail
6 classes and our territorial wholesale customers.

7 **Q. EXPLAIN HOW YOU TRANSLATE THIS ENERGY SALES**
8 **FORECAST INTO A FORECAST OF FUEL REQUIREMENTS FOR**
9 **THE ELECTRIC SYSTEM.**

10 A. We simulate the dispatch of our generating units with the software
11 program PROSYM. PROSYM is licensed with Global Energy Decisions,
12 Inc. It is a well-accepted tool in the industry being used by over 100
13 utilities.

14 **Q. DISCUSS THE PROSYM MODEL INPUTS.**

15 A. The following are key inputs to the model:

- 16 1. Energy Sales Forecast
17 2. Fuel Price Data
18 3. Generator Operating Parameters; and
19 4. Market Prices.

20 Exhibit No. ____ (JML-2) graphically displays these inputs.

1 **Energy Sales Forecast:** I have already described the creation of the
2 monthly energy sales forecast. This is used to create forecasts of hourly
3 loads based on historical hourly load profiles.

4 **Fuel Price Data:** A forecast of monthly fuel prices for coal and oil
5 are provided by the SCE&G Fossil/Hydro Procurement Department. Fuel
6 data includes transportation costs and sulfur content of coal. A forecast of
7 monthly nuclear fuel prices is provided by the SCE&G Nuclear Fuel
8 Management Department. A gas price forecast is created using the Nymex
9 natural gas futures prices. Expected gas transportation costs are added to
10 the Nymex prices to create a forecast of the delivered cost of gas. In the
11 forecast presented here, we are using the prices of the Nymex futures
12 contracts from market close on February 5, 2008. The average price for the
13 twelve contracts, May 2008 through April 2009, was \$8.52 per DT.

14 **Generator Operating Parameters:** Generator operating parameters
15 include heat rate, capacity, maintenance outage schedule, forced outage
16 rate, and operating constraints. Operating constraints include variables
17 such as minimum up and down times, ramp rates, and start costs. All of
18 these variables control the cost and feasibility of dispatching each unit each
19 hour.

20 **Market Prices:** The market prices for power are input into the
21 model to reflect the opportunities that SCE&G has to purchase power at
22 prices below its marginal cost of generation or to sell power above its

1 marginal cost of generation. The market prices utilized in the model are
2 determined using SCE&G's marginal costs and the marginal costs of
3 utilities in the southeast.

4 **Q. EXPLAIN HOW PROSYM MODELS THE ELECTRIC SYSTEM.**

5 A. PROSYM is a chronological hourly dispatch model. In each hour of
6 a study period, PROSYM arranges all the available supply sources from
7 lowest cost to highest and then determines the least-cost way to meet the
8 customer load in that hour while considering a complex set of operating
9 constraints. As part of this dispatching process, PROSYM also simulates
10 random unscheduled outages of our plants based on the forced outage rates
11 that were part of the input database.

12 **Q. WHAT ARE THE PROSYM RESULTS FOR 2008?**

13 A. Based on the PROSYM simulations, we expect to supply 28,042
14 gigawatt hours of energy to the electric grid. This includes losses and
15 energy required for pumping at our pumped storage plant. Of this total
16 supply, we expect about 61% to come from coal, 18% from nuclear, 11%
17 from natural gas, 5% from hydro and 5% from off-system purchases.

18 **Q. HOW SENSITIVE ARE THE SYSTEM PRODUCTION COSTS TO**
19 **THE SYSTEM ENERGY NEEDS?**

20 A. Since we dispatch the most economical generating units first, an
21 increase or decrease in sales will occur at the margin and will involve the
22 more costly sources of power. We estimate that a 1% change in energy

1 requirements, which is about our average forecast error, will result in about
2 a 2% change in production costs assuming, of course, that the only input
3 being changed is the energy needs of our customers.

4 **Q. AFTER RUNNING THE PROSYM MODEL, WHAT IS THE NEXT**
5 **STEP IN YOUR PROCESS?**

6 A. For the purpose of these proceedings, the PROSYM model output
7 that defines how the SCE&G electric system will meet the projected
8 electric load is passed to the Rate Department, which develops the
9 appropriate fuel factor for SCE&G rates. Mr. Rooks will discuss this
10 subject. The specific data items that are passed to the Rate Department are
11 plant generation, plant average heat rate, heat content of the coal, capacity
12 factors by unit, off system purchases and sales, and associated market
13 prices. These model outputs form an appropriate basis for projecting fuel
14 costs for the forecast period in this proceeding.

15 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

16 A. Yes it does.

Short-Term Forecasting Groups

<u>Class Number</u>	<u>Class Name</u>	<u>Rate/SIC Designation</u>	<u>Comment</u>
10	Residential Non-Space Heating	Single Family	Rates 1, 2, 5, 6, 8, 18, 25, 26, 62, 64
910	Residential Space Heating	Multi Family	Rates 67, 68, 69
		Mobile Homes	Rates 1, 2, 5, 7, 8
20	Commercial Non-Space Heating	Rate 9	Small General Service
		Rate 12	Churches
		Rate 20, 21	Medium General Service
		Rate 22	Schools
		Rate 24	Large General Service
		Other	Rates 10, 11, 14, 16, 17, 18, 24, 25, 26, 29, 60, 62, 64, 67, 68, 69
920	Commercial Space Heating	Rate 9	Small General Service
30	Industrial Non-Space Heating	Rate 9	Small General Service
		Rate 20, 21	Medium General Service
		Rate 23, SIC 22	Textile Mill Products
		Rate 23, SIC 24	Lumber, Wood Products, Furniture and Fixtures (SIC Codes 24 and 25)
		Rate 23, SIC 26	Paper and Allied Products
		Rate 23, SIC 28	Chemical and Allied Products
		Rate 23, SIC 30	Rubber and Miscellaneous Products
		Rate 23, SIC 32	Stone, Clay, Glass, and Concrete
		Rate 23, SIC 33	Primary Metal Industries; Fabricated Metal Products; Machinery; Electric and Electronic Machinery, Equipment and Supplies; and Transportation Equipment (SIC Codes 33-37)
		Rate 23, SIC 91	Executive, Legislative and General Government (except Finance)
		Rate 23, SIC 99	Other or Unknown SIC Code*
		Rate 27, 60	Large General Service
		Other	Rates 25 and 26
930	Industrial Space Heating	Rate 9	Small General Service
60	Street Lighting	Rates 3, 9, 13, 17, 25, 26, 29, and 69	
70	Other Public Authority	Rate 3 and 29	
		Rates 65 and 66	
92	Municipal	Rate 60, 61	Four Individual Accounts
97	Cooperative	Rate 60, 61	Three Individual Accounts

* Includes small industrial customers from all SIC classifications that were not previously forecasted individually.

Note: Industrial Rate 23 also includes Rate 24. Commercial Rate 24 also includes Rate 23.

